WHAT IS CLAIMED IS:

1. An isolated or recombinant polypeptide that:

a) specifically binds polyclonal antibodies generated against at least a 12 consecutive amino acid segment of SEQ ID NO: 2 or 4; and

b) comprises at least one sequence selected from:

i) GENSGVK; EDWEKD; CCLEDPA; FVHTSR; KKFSIHD; VLVLDS; NLIAVP; FFALAS; SSASAEK; SLILLGV; FCLYCDK; PSLQLK; KLMKLAAQ; FIFYRAQ; SRNMLES; WFICTS; EPVGVT; or FSFQPVC (see SEQ ID NO: 2); or

ii) FVHTSP; SPILLGV; or SWNMLES (see SEQ ID NO: 4).

2. The polypeptide of Claim 1:

a) wherein said polypeptide comprises a plurality of said sequences selected from said groups in section b);

b) which specifically binds to polyclonal antibodies generated against an immunogen selected from SEQ ID NO: 2 or 4; or

c) wherein said 12 consecutive amino acid segment is selected from: GVKMGSEDWEKD; AGSPLEPGPSLP; SRKVKSLNPKKF; HDQDHKVLVLDS; NLIAVPDKNYIR; FALASSLSSASA; GQSHPSLQLKKE; MKLAAQKESARR; FYRAQVGSRNML; TSCNCNEPVGVT; FENRKHIEFSFQ; or PVCKAEMSPSEV (see SEQ ID NO: 2); or AVSPLEPGPSLP; SPKVKNLNPKKF; or FYRAQVGSWNML (see SEQ ID NO: 4).

3. The polypeptide of Claim 2, wherein said polypeptide:

i) comprises a mature protein;
ii) lacks a post-translational modification;
iii) is from a primate, including a human;
iv) is a natural allelic variant of IL-1ζ;
v) has a length at least about 30 amino acids;
vi) exhibits at least two non-overlapping epitopes that are specific for a primate IL-1ζ;
vii) exhibits a sequence identity over a length of at least about 20 amino acids to SEQ ID NO: 2 or 4;
viii) is not glycosylated;
ix) has a molecular weight of at least 10 kD with natural glycosylation;
x) is a synthetic polypeptide;
xi) is attached to a solid substrate;
xii) is conjugated to another chemical moiety;
xiii) is a 5-fold or less substitution from natural sequence; or
xiv) is a deletion or insertion variant from a natural sequence.

4. A composition of matter comprising:

a) a sterile polypeptide of Claim 2;
b) said sterile polypeptide of Claim 2 and a carrier, wherein said carrier is:
i) an aqueous compound, including water, saline, and/or buffer; and/or
ii) formulated for oral, rectal, nasal, topical, or parenteral administration.

5. A fusion protein having a polypeptide sequence of Claim 2 further comprising:

a) a mature polypeptide of Claim 2;
b) a detection or purification tag, including a FLAG, His6, or Ig sequence; or
c) sequence of another cytokine or chemokine.

6. A kit comprising a polypeptide of Claim 2, and:

a) a compartment comprising said polypeptide; and/or

b) instructions for use or disposal of reagents in said kit.

7. A binding compound comprising an antigen binding site from an antibody, which specifically binds to a mature polypeptide of Claim 2, wherein:

a) said mature polypeptide is a primate IL-1ζ;

b) said binding compound is an Fv, Fab, or Fab2 fragment;

c) said binding compound is conjugated to another chemical moiety; or

d) said antibody:

i) is raised against a 12 consecutive amino acid segment of SEQ ID NO: 2 or 4;

ii) is raised against a mature IL-1ζ;

iii) is raised to a purified primate IL-1ζ;

iv) is immunoselected;

v) is a polyclonal antibody;

vi) binds to a denatured IL-1ζ;

vii) exhibits a Kd to antigen of at least 30 μM;

viii) is attached to a solid substrate, including a bead or plastic membrane;

ix) is in a sterile composition; or

x) is detectably labeled, including a radioactive or fluorescent label.

8. A kit comprising said binding compound of Claim 7, and:

a) a compartment comprising said binding compound; and/or

b) instructions for use or disposal of reagents in said kit.

9. A composition comprising:

a) a sterile binding compound of Claim 7, or

b) said binding compound of Claim 7 and a carrier, wherein said carrier is:

i) an aqueous compound, including water, saline, and/or buffer; and/or

ii) formulated for oral, rectal, nasal, topical, or parenteral administration.

10. An isolated or recombinant nucleic acid encoding a polypeptide of Claim 2, wherein:

a) said polypeptide of Claim 2 is a primate IL-1ζ; or

b) said nucleic acid:

i) encodes an antigenic peptide sequence of SEQ ID NO: 2 or 4;

ii) encodes a plurality of antigenic peptide sequences of SEQ ID NO: 2 or 4;

iii) exhibits at least about 80% identity to a natural cDNA encoding said segment;

iv) is an expression vector;

v) further comprises an origin of replication;

vi) is from a natural source;

vii) comprises a detectable label;

viii) comprises synthetic nucleotide sequence;

ix) is less than 6 kb, preferably less than 3 kb;

x) is from a rodent;

xi) comprises a natural full length coding sequence;

xii) is a hybridization probe for a gene encoding said IL-1ζ; or

xiii) is a PCR primer, PCR product, or mutagenesis primer; or

xiv) encodes an IL-1ζ polypeptide.

11. A cell, transformed with said nucleic acid of Claim 10.

12. The cell of Claim 11, wherein said cell is:

a) a prokaryotic cell;

b) a eukaryotic cell;

c) a bacterial cell;

d) a yeast cell;

e) an insect cell;

f) a mammalian cell;

g) a mouse cell;

h) a primate cell; or

i) a human cell.

13. A kit comprising said nucleic acid of Claim 10, and:

a) a compartment further comprising a primate IL-1ζ polypeptide; and/or

b) instructions for use or disposal of reagents in said kit.

14. An isolated or recombinant nucleic acid that hybridizes under wash conditions of 30° C and less than 2M salt to SEQ ID NO: 1.

15. The nucleic acid of Claim 14, wherein:

a) said wash condition is at 45° C and/or 500 mM salt; or

b) said nucleic acid encodes at least 12 contiguous amino acids of SEQ ID NO: 2 or 4.

16. The nucleic acid of Claim 15, wherein:

a) said wash condition is at 55° C and/or 150 mM salt; or

b) said nucleic acid encodes at least 17 contiguous amino acids of SEQ ID NO: 2 or 4.

17. A method of modulating a cell involved in an inflammatory response comprising contacting said cell with an agonist or antagonist of a primate IL-1ζ polypeptide of Claim 1.

18. The method of Claim 17, wherein:

a) said contacting is in combination with an agonist or antagonist of IL-1α, IL-1RA, IL-1β, IL-1γ, IL-1δ, IL-1ε, IL-2, and/or IL-12;

b) said contacting is with an antagonist, including binding composition comprising an antibody binding site which specifically binds an IL-1ζ; or

c) said modulating is regulation of IFN-γ production.

19. A binding compound comprising an antigen binding portion from an antibody, which specifically binds to a primate protein of Claim 1, wherein:

a) said protein is a human protein;

b) said binding compound is an Fv, Fab, or Fab2 fragment;

c) said binding compound is conjugated to another chemical moiety; or

d) said antibody:

i) is raised against a polypeptide sequence of a mature polypeptide comprising at least 12 consecutive amino acids of SEQ ID NO: 2 or 4;

ii) is raised against a mature primate IL-1ζ;

iii) is raised to a purified primate IL-1ζ;

iv) is immunoselected;

v) is a polyclonal antibody;

vi) binds to a denatured primate IL-1ζ;

vii) exhibits a Kd to antigen of at least 30 μM;

viii) is attached to a solid substrate, including a bead or plastic membrane;

ix) is in a sterile composition; or

x) is detectably labeled, including a radioactive or fluorescent label.

20. A method of:

A) making an antibody of Claim 19, comprising immunizing an immune system with an immunogenic amount of:

a) a primate IL-1ζ polypeptide; or

b) a peptide sequence comprising at least 12 consecutive amino acids of SEQ ID NO: 2 or 4;

thereby causing said antibody to be produced; or

B) producing an antigen:antibody complex, comprising contacting a primate IL-1ζ polypeptide with an antibody of Claim 19 thereby allowing said complex to form.